

2008 Annual Index

This reference of technical subjects, news and special features from Volume 49 of *Sea Technology* magazine provides information about feature articles, covers, soapboxes, editorials and authors.

This listing will also appear on the *Sea Technology* Web site,
www.sea-technology.com.

JANUARY

Cover—RAdm. David Gove, the new oceanographer and navigator of the U.S. Navy. (Photo courtesy of Robert Freeman.)

Editorial—**SMART SENSORS: FACT OR FICTION?**—J.V. Candy

Soapbox—**OCEAN OBSERVATORIES: ONCE THEY'RE BUILT, THEN WHAT?**—Jeffrey Kinder

EDITORIAL CONTENT

GREATER CLIMATE AWARENESS USHERS IN NEW OCEAN ERA

VAdm. Conrad C. Lautenbacher Jr., Undersecretary of Commerce for Oceans and Atmosphere, Administrator, National Oceanic and Atmospheric Administration
NAVAL OCEANOGRAPHY AND NAVIGATION: THE 'LONG VIEW'

RAdm. David Gove, Oceanographer and Navigator of the Navy, U.S. Navy

A NEW ORGANIZATION FOR OCEAN LEADERSHIP

Dr. Robert Gagosian, President and Chief Executive Officer, Consortium for Ocean Leadership

DEVELOPMENTS IN CLIVAR'S OCEAN ACTIVITIES

Howard Cattle, Director, International CLIVAR Project Office

REBUILD THE NAVY: JUST 12 SHIPS A YEAR

Cynthia Brown, President, American Shipbuilding Association

THE OFFICE OF NAVAL RESEARCH: BRINGING TECHNOLOGY TO THE WARFIGHTER

RAdm. William E. Landay III, Chief of Naval Research, Office of Naval Research, U.S. Navy

NEW MARINE ADMINISTRATION OFFICE OVERSEES ENVIRONMENT, COMPLIANCE

Joseph A. Byrne, Associate Administrator for Environment and Compliance, Maritime Administration, U.S. Department of Transportation

MORPHOS: ADVANCING OUR UNDERSTANDING OF COASTAL HAZARDS AND RISKS

Jeff Hanson, Morphos Project Manager, and Don Resio, Senior Scientist, U.S. Army Corps of Engineers

EPA'S MARINE DEBRIS PROGRAM: TAKING ACTION AGAINST TRASH

Benjamin H. Grumbles, Assistant Administrator for Water, U.S. Environmental Protection Agency

DEEPWATER FOCUS FOR OIL, GAS EXPLORATION AND PRODUCTION WILL HIGHLIGHT 2008

Susanne Pagano, Houston, Texas
INTRODUCING A NEW STRATEGIC PLAN AND INTEGRATED PROGRAM ASSES-

MENT SYSTEM

Dr. Leon M. Cammen, Director, and Amy Painter, Communications Leader, National Sea Grant College Program, National Oceanic and Atmospheric Administration
EXPLORING THE OCEANS: A RESPONSIBILITY TO MEET

Rep. Jim Saxton (R-N.J.), Senior Member of the House Subcommittee on Fisheries, Wildlife and Oceans, U.S. House of Representatives

USGS: BUILDING ON LEADERSHIP IN MAPPING OCEANS AND COASTS

Mark D. Myers, Director, U.S. Geological Survey

FISHERIES AND AQUACULTURE: CURRENT POLITICAL CLIMATE WORRISOME

Rick Martin, Publisher, *Commercial Fisheries News* and *Fish Farming News*

FIRING LINE REPORT: OIL STILL STRONG FOR 2008

Danielle Lucey, Managing Editor

NEW VIBRO-CORING SYSTEM FOR IMPROVED SEABED SAMPLING

Emanuele Bartolini, Giovanni Catone and Alessandro Bacchelli (Polaris srl) explore how a new technology allows small companies to improve seabed sampling operations at a low cost.

REMOTE SENSING OF SOUND SPEED AND TEMPERATURE IN THE OCEAN

Thomas Walther (Technische Universität Darmstadt) and Edward S. Fry (Texas A&M University) review key transmitter and receiver developments for a practical Brillouin LIDAR.

FEBRUARY

Cover—National Oceanic and Atmospheric Administration (NOAA) technicians recover an acoustic Doppler current profiler deployed in the Pacific Tropical Atmosphere Ocean array to measure velocity in the upper 300 meters of the ocean. (Photo courtesy of D. Sweeney, NOAA.)

Editorial—**WITH MARITIME SECURITY, SAFETY OUTWEIGHS COST**—George Guy Thomas

Soapbox—**NOAA'S AQUARIUS PROGRAM TURNS 20: LOOKING BACK AND TO THE FUTURE**—Dr. Ellen Prager

EDITORIAL CONTENT

WIRELESS CONTROL AND MONITORING OF SUBSEA EQUIPMENT

Dr. Andrew Jaffrey (Nautronix plc) describes the operational flexibility and financial advantage of using advanced acoustics with remote subsea oil and gas equipment.

WAVE MEASUREMENTS FROM A SUBSEA BUOY

Torstein Pedersen (Nortek AS) and Eric Siegel (NortekUSA) demonstrate a new method for

using the AWAC acoustic Doppler current profiler for wave measurements from a sub-surface buoy.

PROTECTION OF MARITIME ASSETS AND PORT SECURITY

Stephen T. Makrinos (CACI Technologies Inc.) explains breakthroughs in defense against surface and subsurface improvised explosive device threats.

EVOLUTION OF COASTAL OBSERVING NETWORKS

Oscar Schofield, Josh Kohut and Scott Glenn (Rutgers University) discuss dramatic advances in ocean observing that will have immediate benefits to society.

OCEANOLOGY INTERNATIONAL 2008

—Conference Preview

TARGET TRACKING USING A BIOMIMETIC UNDERWATER VEHICLE

Jenhwa Guo (National Taiwan University) proposes using a BAUV to minimize estimation error and motion control cost for a waypoint guidance system.

ALOHA CABLED OBSERVATORY WILL MONITOR OCEAN IN REAL TIME

Fred Duennebie, David Harris and James Jolly (University of Hawaii) describe the first use of a retired commercial electro-optical submarine cable for a scientific observatory.

WQM: NEW INSTRUMENTATION FOR COASTAL MONITORING

Dr. Carol Janzen, Dr. Nordeen Larson (Sea-Bird Electronics Inc.) and Casey Moore (WET Labs Inc.) introduce a new technology that can extend deployments and reduce cost by preserving long-term accuracy.

FIELD CALIBRATIONS OF A 3D SCIENTIFIC FISHERIES SONAR

Egil Ona (The Institute of Marine Research) and Dr. Lars Nonboe Andersen (Simrad) reveal sonar that can achieve higher accuracy when measuring sensitive pelagic fish schools.

MARCH

Cover—Composite image of a bathymetric surface from CARIS (Frederickton, Canada) hydrographic information processing software displaying contours and soundings in an electronic navigational chart format and an inverted photograph of the Manhattan skyline. (Photo courtesy of CARIS.)

Editorial—**SUSTAINING OUR TECHNOLOGICAL KNOW-HOW**—Jack Evans

Soapbox—**THE WIRED OCEAN: A NEW PARADIGM FOR BUSINESS AND COLLABORATION**—Stephen Andrade

EDITORIAL CONTENT

ADDRESSING THE NEED FOR BATHYMETRIC DATA MANAGEMENT

Frederic Lavoie (Canadian Hydrographic Service) and Karen Cove (CARIS) explore a

2008 Annual Index

This reference of technical subjects, news and special features from Volume 49 of *Sea Technology* magazine provides information about feature articles, covers, soapboxes, editorials and authors.

This listing will also appear on the *Sea Technology* Web site,
www.sea-technology.com.

JANUARY

Cover—RAdm. David Gove, the new oceanographer and navigator of the U.S. Navy. (Photo courtesy of Robert Freeman.)

Editorial—**SMART SENSORS: FACT OR FICTION?**—J.V. Candy

Soapbox—**OCEAN OBSERVATORIES: ONCE THEY'RE BUILT, THEN WHAT?**—Jeffrey Kinder

EDITORIAL CONTENT

GREATER CLIMATE AWARENESS USHERS IN NEW OCEAN ERA

VAdm. Conrad C. Lautenbacher Jr., Undersecretary of Commerce for Oceans and Atmosphere, Administrator, National Oceanic and Atmospheric Administration
NAVAL OCEANOGRAPHY AND NAVIGATION: THE 'LONG VIEW'

RAdm. David Gove, Oceanographer and Navigator of the Navy, U.S. Navy

A NEW ORGANIZATION FOR OCEAN LEADERSHIP

Dr. Robert Gagosian, President and Chief Executive Officer, Consortium for Ocean Leadership

DEVELOPMENTS IN CLIVAR'S OCEAN ACTIVITIES

Howard Cattle, Director, International CLIVAR Project Office

REBUILD THE NAVY: JUST 12 SHIPS A YEAR

Cynthia Brown, President, American Shipbuilding Association

THE OFFICE OF NAVAL RESEARCH: BRINGING TECHNOLOGY TO THE WARFIGHTER

RAdm. William E. Landay III, Chief of Naval Research, Office of Naval Research, U.S. Navy

NEW MARINE ADMINISTRATION OFFICE OVERSEES ENVIRONMENT, COMPLIANCE

Joseph A. Byrne, Associate Administrator for Environment and Compliance, Maritime Administration, U.S. Department of Transportation

MORPHOS: ADVANCING OUR UNDERSTANDING OF COASTAL HAZARDS AND RISKS

Jeff Hanson, Morphos Project Manager, and Don Resio, Senior Scientist, U.S. Army Corps of Engineers

EPA'S MARINE DEBRIS PROGRAM: TAKING ACTION AGAINST TRASH

Benjamin H. Grumbles, Assistant Administrator for Water, U.S. Environmental Protection Agency

DEEPWATER FOCUS FOR OIL, GAS EXPLORATION AND PRODUCTION WILL HIGHLIGHT 2008

Susanne Pagano, Houston, Texas
INTRODUCING A NEW STRATEGIC PLAN AND INTEGRATED PROGRAM ASSES-

MENT SYSTEM

Dr. Leon M. Cammen, Director, and Amy Painter, Communications Leader, National Sea Grant College Program, National Oceanic and Atmospheric Administration
EXPLORING THE OCEANS: A RESPONSIBILITY TO MEET

Rep. Jim Saxton (R-N.J.), Senior Member of the House Subcommittee on Fisheries, Wildlife and Oceans, U.S. House of Representatives

USGS: BUILDING ON LEADERSHIP IN MAPPING OCEANS AND COASTS

Mark D. Myers, Director, U.S. Geological Survey

FISHERIES AND AQUACULTURE: CURRENT POLITICAL CLIMATE WORRISOME

Rick Martin, Publisher, *Commercial Fisheries News* and *Fish Farming News*

FIRING LINE REPORT: OIL STILL STRONG FOR 2008

Danielle Lucey, Managing Editor

NEW VIBRO-CORING SYSTEM FOR IMPROVED SEABED SAMPLING

Emanuele Bartolini, Giovanni Catone and Alessandro Bacchelli (Polaris srl) explore how a new technology allows small companies to improve seabed sampling operations at a low cost.

REMOTE SENSING OF SOUND SPEED AND TEMPERATURE IN THE OCEAN

Thomas Walther (Technische Universität Darmstadt) and Edward S. Fry (Texas A&M University) review key transmitter and receiver developments for a practical Brillouin LIDAR.

FEBRUARY

Cover—National Oceanic and Atmospheric Administration (NOAA) technicians recover an acoustic Doppler current profiler deployed in the Pacific Tropical Atmosphere Ocean array to measure velocity in the upper 300 meters of the ocean. (Photo courtesy of D. Sweeney, NOAA.)

Editorial—**WITH MARITIME SECURITY, SAFETY OUTWEIGHS COST**—George Guy Thomas

Soapbox—**NOAA'S AQUARIUS PROGRAM TURNS 20: LOOKING BACK AND TO THE FUTURE**—Dr. Ellen Prager

EDITORIAL CONTENT

WIRELESS CONTROL AND MONITORING OF SUBSEA EQUIPMENT

Dr. Andrew Jaffrey (Nautronix plc) describes the operational flexibility and financial advantage of using advanced acoustics with remote subsea oil and gas equipment.

WAVE MEASUREMENTS FROM A SUBSEA BUOY

Torstein Pedersen (Nortek AS) and Eric Siegel (NortekUSA) demonstrate a new method for

using the AWAC acoustic Doppler current profiler for wave measurements from a sub-surface buoy.

PROTECTION OF MARITIME ASSETS AND PORT SECURITY

Stephen T. Makrinos (CACI Technologies Inc.) explains breakthroughs in defense against surface and subsurface improvised explosive device threats.

EVOLUTION OF COASTAL OBSERVING NETWORKS

Oscar Schofield, Josh Kohut and Scott Glenn (Rutgers University) discuss dramatic advances in ocean observing that will have immediate benefits to society.

OCEANOLOGY INTERNATIONAL 2008

—Conference Preview

TARGET TRACKING USING A BIOMIMETIC UNDERWATER VEHICLE

Jenhwa Guo (National Taiwan University) proposes using a BAUV to minimize estimation error and motion control cost for a way-point guidance system.

ALOHA CABLED OBSERVATORY WILL MONITOR OCEAN IN REAL TIME

Fred Duennebie, David Harris and James Jolly (University of Hawaii) describe the first use of a retired commercial electro-optical submarine cable for a scientific observatory.

WQM: NEW INSTRUMENTATION FOR COASTAL MONITORING

Dr. Carol Janzen, Dr. Nordeen Larson (Sea-Bird Electronics Inc.) and Casey Moore (WET Labs Inc.) introduce a new technology that can extend deployments and reduce cost by preserving long-term accuracy.

FIELD CALIBRATIONS OF A 3D SCIENTIFIC FISHERIES SONAR

Egil Ona (The Institute of Marine Research) and Dr. Lars Nonboe Andersen (Simrad) reveal sonar that can achieve higher accuracy when measuring sensitive pelagic fish schools.

MARCH

Cover—Composite image of a bathymetric surface from CARIS (Frederickton, Canada) hydrographic information processing software displaying contours and soundings in an electronic navigational chart format and an inverted photograph of the Manhattan skyline. (Photo courtesy of CARIS.)

Editorial—**SUSTAINING OUR TECHNOLOGICAL KNOW-HOW**—Jack Evans

Soapbox—**THE WIRED OCEAN: A NEW PARADIGM FOR BUSINESS AND COLLABORATION**—Stephen Andrade

EDITORIAL CONTENT

ADDRESSING THE NEED FOR BATHYMETRIC DATA MANAGEMENT

Frederic Lavoie (Canadian Hydrographic Service) and Karen Cove (CARIS) explore a

new solution for bathymetric data assessment, storage and management needs.

AIRBORNE LIDAR HYDROGRAPHIC SURVEY FOR HOMELAND SECURITY

Mark Sinclair (Tenix LADS Corp.) reviews a method for surveying remote, uncharted areas in Australia's Torres Strait.

INSTRUMENTATION FOR UNDERWATER IN-SITU RADON ANALYSIS

Dr. Christos Tsabaris, Aggelos Mallios and Dr. Evangelos Papathanassiou (Hellenic Centre for Marine Research) describe the design and application of an underwater *in-situ* gamma-ray spectrometer.

NEW GENERATION OF ELECTRONIC CARD SYSTEMS: THE 4D CARD

Capt. Alain Richard (Institut Maritime du Québec) introduces new technology to manage the passage of ships in confined waters with the tides' effects.

OCEANS '08 MTS/IEEE KOBE-TECHNO-OCEAN '08

—Conference Preview

SUPPRESSING RADIO FREQUENCY INTERFERENCE IN HF RADARS

Dr. Klaus-Werner Gurgel (University of Hamburg Institute of Oceanography) and Dr. Yves Barbin (Laboratoire de Sondages Electromagnétiques de l'Environnement Terrestre) propose a four-step method for reducing RFI impact on HF radars.

DEVELOPING A SEDIMENT SAMPLING ROV FOR THE DEEPEST OCEAN

Dr. Shojiro Ishibashi and Dr. Hiroshi Yoshida (Japan Agency for Marine-Earth Science and Technology) discuss a new submersible that could be capable of diving to depths of more than 10,000 meters in the Mariana Trench.

APRIL

Cover—Enso International Inc.'s (Dallas, Texas) jack-up Enso 108 is contracted to drill for BP (London, England) offshore Indonesia. The high-performance premium rig is an enhanced KFELS MOD V-B design unit, rated to drill in water depths up to 400 feet. The rig was built in Singapore and entered Enso's fleet in 2007.

Editorial—AT THE CROSSROADS: THE FUTURE OF U.S. AQUACULTURE—Michael Rubino

Soapbox—WHAT DO YOU GET WHEN YOU CROSS THE 'BLUE WATER' AND 'BROWN WATER' NAVIES?—Marianne Molchan

EDITORIAL CONTENT

TRANSPORTING EQUIPMENT AND SAMPLES USING BENTHIC ELEVATORS

Mike Conway and Paul McGill (Monterey Bay Aquarium Research Institute) examine the development of innovative solutions for deep-sea transportation challenges.

RISING OIL, GAS DEMAND SPURS DEEP-WATER ACTIVITIES

Susanne Pagano explains how oil and gas companies are investing record amounts to develop new technology for enhancing exploration and production.

EXTREME WAVE EFFECTS ON DEEPWATER FLOATING STRUCTURES

Bas Buchner and Tim Bunnik (Maritime Research Institute Netherlands) reveal a new method for determining dynamic tension leg platform response.

2008 OFFSHORE TECHNOLOGY CONFERENCE

—Conference Preview

OFFSHORE WIND ENERGY: THE NEXT NORTH SEA OIL

Dr. Dong-Sheng Jeng (University of Dundee) discusses the potentials and assessments of offshore wind energy systems and asks where the best sites are for offshore wind farms in Australia.

SEA CON TECHNOLOGY CRUCIAL TO ANTARCTIC RESEARCH PROJECT

Michael Mulcahy (Michael Mulcahy & Associates Inc.) explains how sensors relay data from deep in the South Pole ice cap via satellite to the University of Wisconsin, Madison.

CANADIAN HYDROGRAPHIC CONFERENCE/NATIONAL SURVEYORS CONFERENCE 2008

—Conference Preview

TELEDYNE MARINE: INDUSTRY COLLABORATION AT ITS BEST

—Company Profile

EARLY-STAGE TIDAL STREAM GENERATORS

Dr. David Fryer and Dr. Stephanie Merry (Marine and Technical Management Consultants Ltd.) consider physical model tests for determining commercial viability.

MAY

Cover—Envirtech (Genoa, Italy) designed and developed the deep-sea Poseidon-class tsunami detection systems using high-resolution pressure sensors. The exchange of commands/messages and the notification of alarms to the ashore center are made possible using highly robust LinkQuest (San Diego, California) UWM3000 underwater acoustic modems. Poseidon systems are currently operating in the Bangala Bay in the Indian Ocean at about 3,400 to 3,500 meters of water depth. (Photo courtesy of LinkQuest Inc.)

Editorial—SEA TECHNOLOGY LOOKS TO THE FUTURE—Danielle Lucey

Soapbox—BRAINSTORMING FOR A BETTER OCEAN—Ben Korgen

EDITORIAL CONTENT

NOAA'S NATIONAL DATA BUOY CENTER DATA ASSEMBLY CENTER

Dr. Richard L. Crout and Dr. William H. Burnett (National Data Buoy Center) explain the evolving infrastructure and increasing data management requirements of the U.S. Integrated Ocean Observing System.

U.S. GOVERNMENT FISCAL YEAR 2009 BUDGET

The *Sea Technology* editorial staff outlines the fiscal year 2009 budget.

COMMUNICATIONS TECHNOLOGY EVOLVES TO BETTER SERVE THE OFFSHORE INDUSTRY

Dr. Qian Zhong (Tyco Telecommunications) discusses the development of an OADM trunk-and-branch suite of undersea hard-

ware to lead communication systems into the future.

PACON 2008: ENERGY AND CLIMATE CHANGE

—Conference Preview

LOW SIGNAL-TO-NOISE RATIO UNDERWATER ACOUSTIC COMMUNICATIONS

Dr. T.C. Yang (Naval Research Laboratory) and Dr. Wen-Bin Yang (National Institute of Standards and Technology) explore channel effect and signal processing for direct-sequence spread-spectrum signaling.

UNDERSEA DEFENCE TECHNOLOGY 2008

—Conference Preview

A CHANNEL-SHARING SCHEME FOR UNDERWATER CELLULAR NETWORKS

Borja M. Peleato (Stanford University) and Milica Stojanovich (Massachusetts Institute of Technology) discuss how to take advantage of the long propagation delays in the design of underwater half-duplex cellular networks.

CHALLENGES AND ISSUES IN WAVE ENERGY CONVERSION

Dr. Asfaw Beyene (San Diego State University) and Dr. James H. Wilson (Planning Systems Inc.) look at the technical, environmental and permitting challenges facing wave energy conversion for the California Coast.

NOIA MEMBERS GATHER FOR ANNUAL MEETING IN WASHINGTON, D.C.

—Conference Report

JUNE

Cover—Side scan image of the Allen Reef shipwreck at a range of 90-plus meters. The image was taken using EdgeTech's (West Wareham, Massachusetts) 4700-DFX long-range, high-speed side scan sonar system.

Editorial—A FAREWELL TO NOAA SHIP RUDE—Cmdr. James Varlaque

Soapbox—ROVS: A LOOK BACK, A LOOK AHEAD—Robert Wernli

EDITORIAL CONTENT

EXPLORING WEST FLORIDA ESCARPMENT WITH HIGH-RESOLUTION GEOPHYSICAL IMAGING

William W. Sager (Texas A&M University), Jih-Ping Shyu (C & C Technologies) and Justin Manley (Battelle) discuss the NOAA-funded industry-academic survey to map part of the WFE by AUV.

EXTENDING THE MULTIBEAM ANGULAR SECTOR TO IMPROVE SEAFLOOR CLASSIFICATION

Lt. Cmdr. Aluizio M. Oliveira Jr. (Brazilian navy) and John E. Hughes Clarke (University of New Brunswick, Fredericton) outline a three-step process to explore the outermost beams of multibeam backscatter.

SHALLOW-WATER SURVEY EFFICIENCY USING SWATH BATHYMETRY

Frederick Hegg (Hegg Marine Solutions) and Rick Tidd (Teledyne Benthos) achieve effective survey performance in a dynamic and challenging near-shore environment.

OCEANOLOGY INTERNATIONAL '08: RECORD ATTENDANCE REFLECTS GLOBAL AWARENESS

—Conference Review

VERTICAL POSITION ERROR ESTIMATION IN TPE AND CUBE FOR HYDROGRAPHIC SURVEYING

Peter Canter (Applanix), Doug Lockhart (Fugro Pelagos) and Corey Collins (CARIS) discover that using altitude on the ellipsoid in place of heave delivers improved seafloor image results.

ACTIVE CROWN COMPENSATOR FOR NONCONTACT OPERATIONS

Jan Hatleskog and Matthew W. Dunnigan (Heriot-Watt University, Edinburgh) review an active system designed to reduce heave disturbance for a safer landing operation.

UNDERWATER WELDING IN HYPERBARIC CONDITIONS

Huseyin Ozden (Ege University) studies the parameters for underwater gas tungsten arc welded joints.

JULY

Cover—Offshore infrastructure elements: cables and hoses raised above the splash zone for inspection and service. (Photo courtesy of SubConn Inc.)

Editorial—**PROGRESS IS IN THE HANDS OF UNREASONABLE INDIVIDUALS**—Moya Crawford

Soapbox—**DEEP-SEA OBSERVATORIES: WILL THEY DELIVER WHAT THEY PROMISE?**—Christoph Waldmann

EDITORIAL CONTENT**THE NEPTUNE CANADA REGIONAL CABLED OCEAN OBSERVATORY**

Dr. R. Chris Barnes, Dr. Mairi M.R. Best and Dr. Adam Zielinski (University of Victoria) give an overview of the progress of installation and the science experiments designed for the observatory.

WHOI LONG CORE SYSTEM INSTALLED ON THE RV KNORR

Ken Fitzgerald (The Glosten Associates) and Jim Broda (Woods Hole Oceanographic Institution) review deck gear design and vessel modifications for a massive new piston coring system.

MONITORING CONSTRUCTION OF THE NEPTUNE REGIONAL TRANSMISSION SYSTEM IN REAL TIME

Jaak Van den Syde, David Davis and John Duschang (HDR) talk about supervising the suspended sediment plume created by trenching operations for the East Coast's largest undersea cabling project.

HOW TWIST CAN AFFECT BRAIDED MARINE ROPES

Peter Davies (French Ocean Research Institute) and Nick O'Hear (Tension Technology International) reveal rotation's influence on the residual strength of high-performance HMPE ropes used for towing and deep-sea handling operations.

MORE POWER FOR SEAGOING, BATTERY-POWERED VEHICLES OF ALL KINDS

Robert N. O'Brien (University of Victoria) shows how NiMH batteries, lighter than lead-acid batteries and safer than Li-ion batteries, are easily magnetized to increase efficiency.

AUTOMATIC EXTRACTION OF COASTLINES FROM SAR IMAGES

H. Hakan Maras (General Command of Mapping) reviews how accurate coastline mapping for GIS vector data sets can be achieved with automatic extraction from SAR imagery.

EVALUATION OF NAUTICAL BOTTOM DETECTION TECHNIQUES

Stijn Claeys (GEMS International) studies the need for rheology-based instruments to determine the nautical bottom.

APPLYING SOFTWARE RADIO TECHNIQUES TO UNDERWATER ACOUSTIC COMMUNICATION

Emma Jones (Sea (Group) Ltd.) outlines how to improve product flexibility and interoperability through the use of software radio techniques and associated standards.

AUGUST

Cover—Gorgonian corals such as *Icilogorgia schrammi* produce interesting natural products which are being investigated for their ability to treat a variety of medical conditions, including cancer, malaria, wounds and arthritis. (Photo courtesy of Harbor Branch Oceanographic Institute.)

Editorial—**WHEN 'QUICK AND DIRTY' SHOULD NOT BE QUICK AND DIRTY**—Christopher M. Reddy

Soapbox—**THE 21st CENTURY ENVIRONMENTAL CRISIS**—Michael A. Champ, David A. Flemer and Gary M. Noland

EDITORIAL CONTENT**INTEGRATING CHARTING AND ACOUSTIC HABITAT RESEARCH**

Lt. Jay Lomnick and Dr. Robert McConnaughey (NOAA) review the collaboration of NOAA hydrographers and fishery biologists on multi-mission projects in Alaska.

INNOVATIONS IN OPTICS FOR COASTAL AND OPEN-OCEAN MOORING APPLICATIONS

Dr. Grace Chang, Francesco Nencioli (University of California, Santa Barbara) and Dr. Makio Honda (Japan Agency for Marine-Earth Science and Technology) discuss optical sensors for research and long-term monitoring of the underwater environment.

A LOCAL OPERATIONAL OCEANOGRAPHY MODEL

Maitane Olabarrieta, Sonia Castanedo and Ángel David Gutiérrez Barceló (University of Cantabria) explain procedures to establish a local operational oceanography model and its application off the Cantabrian coast of Spain.

OCEANS '08 MTS/IEEE QUEBEC CONFERENCE AND EXHIBITION

—Conference Preview

ACOUSTIC DETECTION OF DEEP CORAL MOUNDS

Dr. Claudio Lo Iacono, Dr. Eulàlia Gràcia and Dr. Juan José Dañobeitia (Spanish National Research Council) describe how high-resolution acoustic technologies unveil the presence of deep-sea coral mounds in the Alboran Sea in the Western Mediterranean.

OPTIMAL POSITIONING OF PSEUDOLITES AUGMENTED WITH GPS

Dr. M. Halis Saka (Gebze Institute of Technology) tells of finding an optimal location for a fixed pseudolite in support of GPS navigation in poor visibility conditions.

NEW SHALLOW-WATER RETRACTABLE BUOY TECHNOLOGY

Carl K. Wainman (Institute for Maritime Technology) outlines the design of a retractable buoy for shallow-water ocean monitoring, research and surveillance.

A MESH-BASED SENSORS DEPLOYMENT METHOD FOR WATER QUALITY MONITORING

Nadjib Ait Saadi (University of Paris VI), Nadjib Achir and Khaled Boussetta (Institut Galilée, University of Paris XIII) illustrate a mesh-based method for differentiated deployment of underwater wireless sensor networks.

SEPTEMBER

Cover—The deployment of an RBR Ltd. (Ottawa, Canada) telemetry buoy during the 2006 Mooring Campaign of Oceanographic Instruments in the Nelson River Estuary, Hudson Bay, Canada. (Photo courtesy of Igor Shkvetovs and RBR Ltd.)

Editorial—**MAKING BETTER PROJECTIONS OF GLOBAL WARMING AND CLIMATE**—Charles W. Covey

Soapbox—**A PERSPECTIVE ON SAMPLING FOR FISHERIES AND ECOSYSTEMS**—Richard E. Thorne

EDITORIAL CONTENT**NOAA ADDRESSES THE MARINE DEBRIS PROBLEM**

Dr. Holly A. Bamford, Kris McElwee and Carey Morishige (NOAA Marine Debris Program) create partnerships and innovative solutions to fight an ocean and coastal threat. **MULTISPECTRAL MEASUREMENTS OF FLUORESCENCE AND PHYTOPLANKTON** Dr. Tomohiro Horiuchi (Alec Electronics Co. Ltd.) and Dr. Fabian Wolk (Rockland Oceanographic Services Inc.) illustrate new types of *in-situ* instruments that measure phytoplankton composition and concentration.

WAVE ENERGY CONVERSION IN A SHELTERED SEA

Charlotte Beels, Griet De Backer and Pieter Mathys (Ghent University) outline a case study of the wave power resource in a sheltered area of the southern North Sea, the Belgian Continental Shelf.

A NEW METHOD FOR PREPARING CALIBRATION CHAMBER SPECIMENS

Huai-Hou Hsu (Chienkuo Technology University) explains how to prepare large-sized silty sand specimens using a water spray method.

AUTONOMOUS OCEAN BUOY DELIVERS HIGH POWER IN ANY ENVIRONMENT

David A. Sharp, Dr. Douglas Veilleux and William Komm (Raytheon Co. Integrated Defense Systems) show how a U.S. Navy diesel-powered buoy relays acoustic data to a host platform for real-time analysis.

PERFORMANCE LIMITS OF REAL-TIME CONTACT-BASED TRACKING

Stefano Coraluppi and Craig Carthel (NATO

Undersea Research Centre) explore achievable surveillance limits with a high-performance fusion engine.

ICING WIND TUNNEL STUDY OF A WIND TURBINE BLADE DEICING SYSTEM

Guy Fortin, Jean Perron (Université du Québec à Chicoutimi) and Christine Mayer (Roche Itée) simulate the deicing of wind turbine blades with controlled electro-thermal systems.

OCTOBER

Cover—The WesternGeco (London, England) seismic vessel *Geco Eagle*. (Photo courtesy of WesternGeco.)

Editorial—**INNOVATION IS THE ONLY ANSWER TO THE ENERGY CRISIS**—Lauren Masterson

Soapbox—**SUBSEA LASER-INDUCED BREAKDOWN SPECTROSCOPY**—David Hendry

EDITORIAL CONTENT

THE BREMEN LANCE INSERTION RETARDATION METER FOR ASSESSING SEAFLOOR STABILITY

Marcus Fabian, Norbert Kaul (Universität Bremen) and Tom Gmeinder (Eckelmann AG) introduce a new tool used to check the ocean bottom's properties by logging and integrating the motion of a penetrating lance. **USING AUVs TO INVESTIGATE SHIPWRECKS: DEEPWATER ARCHAEOLOGY IN THE GULF**

Daniel Warren, Robert Church and Robert Westrick (C & C Technologies Inc.) use AUVs to open a new era in deepwater archaeology using 21st century oilfield technology.

BATHYMETRIC SURVEYING ACTIVITIES IN ISTANBUL'S BOSPHORUS STRAIT

Dr. Ahmet Unlutepel (Strabag Inc.) describes repeating depth measurements to monitor construction activities for the immersion of tunnel tubes.

SEG 2008 78TH ANNUAL MEETING, LAS VEGAS, NEVADA

—Conference Preview

THE SEARCH FOR THE USS GRUNION AND 70 MEN ON ETERNAL PATROL

Gerald Reilly (Reilly Business Services) recounts the disappearance of a World War II submarine and a family's personal quest to explain history.

WALLEM GROUP TESTS COMMUNICATIONS OF THE FUTURE TO INCREASE CREW SAFETY

—Company Profile

SUBMERGED PREHISTORIC SITES: 'NEEDLES IN HAYSTACKS' FOR CRMS AND INDUSTRY

Michael K. Faught (Panamerican Consultants Inc.) and Nic Flemming (National Oceanography Centre) explain how submerged prehistoric sites are increasingly creating headaches for permitting agencies.

UNDERSEA DEFENCE TECHNOLOGY PACIFIC 2008 CONFERENCE AND EXHIBITION

—Conference Preview

MARINE BIOTECHNOLOGY ADVANCEMENTS IN CHINA

Yan-bo Gao (Dalian Maritime University) and Yan Li (National Ocean Technology Center) look at the research and advancements in Chinese marine biotechnology in recent years.

DEVELOPMENT AND PROPAGATION OF INTERNAL WAVES IN THE MONA PASSAGE

Jorge E. Corredor (University of Puerto Rico, Mayagüez) tells how an EPA-Rutgers-UPRM collaborative undertaking reveals propagation of an internal wave train in the Caribbean's Mona Passage.

NOVEMBER

Cover—The USS *Roosevelt*, an *Arleigh Burke*-class destroyer, with another ship trailing in the background. (Photo courtesy of the U.S. Navy.)

Editorial—**ANTISUBMARINE WARFARE ROBOTIC TRAINING**—Ray Murphy

Soapbox—**NATURE IN PERIL**—Karen Chandler

EDITORIAL CONTENT

NEW SUBMARINE RESCUE SYSTEM IS FIRST DEPLOYED DURING INTERNATIONAL EXERCISE

Capt. Gary H. Dunlap (Naval Sea Systems Command Advanced Undersea Program Office) and James E. Halwachs (Oceanworks International Corp.) introduce the U.S. Navy's next-generation submarine rescue system, which brings advanced capability to replace the DSRV.

DEPENDABLE AND ACCURATE SURVEYING OF HYDROPHONES

Larry A. Anderson and Joseph K. Smalley (Naval Undersea Warfare Center, Division Keyport) show how when attention is given to the basic design of survey processing methods, it pays off in many practical ways.

APPLICABILITY OF NEURAL NETWORK TECHNIQUES TO UNDERWATER NAVAL TACTICS

Clement Petres (French Atomic Energy Commission) assesses neural network capabilities in a practical case: the antisubmarine warfare operation.

OCEANS '08 MTS/IEEE CONFERENCE AND EXHIBITION

—Conference Review

SUBMERSIBLE MARINE MARKER BUOY COULD INCREASE SAFETY ON THE SEA

Rachael Foggitt (Fiomarine) explains how Fiomarine applies submerged buoy technology to defense, fisheries and other marine industries.

MEASURING ALGAL FLUORESCENCE FROM SPACE IN OPTICALLY COMPLEX COASTAL WATERS

David McKee and Alex Cunningham (University of Strathclyde) explain the effect of non-algal materials on sun-induced chlorophyll fluorescence.

DECEMBER

Cover—Deployment of the Max Rover Global Explorer remotely operated vehicle. It was used to search the seafloor offshore Alaska for the World War II submarine the USS *Grunion*. A full-length feature article on

the expedition was featured in the October 2008 issue of *Sea Technology*. (Photo courtesy of Deep Sea Systems International Inc.)

Editorial—**TURNING CLIMATE CHANGE CHALLENGES INTO OPPORTUNITIES**—D. James Baker, Charles Greene, Richard Spinrad and James Yoder

Soapbox—**LOOKING FOR A MARINE TECHNICIAN? BCC CAN PROVIDE ONE**—Meghan Abella-Bowen

EDITORIAL CONTENT

COHERENCE-BASED TARGET DETECTION AND CLASSIFICATION FOR SIDE SCAN SONAR IMAGERY

J. Derek Tucker and Mahmood R. Azimi-Sadjadi (Colorado State University) explore the use of canonical correlation analysis for sonar target detection and classification.

MACHINE VISION-ASSISTED IN-SITU ICHTHYOPLANKTON IMAGING SYSTEM

Dr. Gavril Tschepnakis, Cedric Guigand and Dr. Robert K. Cowen (University of Miami) explain a computer vision technology for high-throughput specimen recognition in the new *In-Situ* Ichthyoplankton Imaging System.

MULTI-AUV COORDINATION IN POOR COMMUNICATION ENVIRONMENTS

Chris C. Sotzing, Dr. David M. Lane (Heriot-Watt University) and Dr. Jonathan Evans (SeeByte Ltd.) use the design and implementation of a multi-agent architecture to increase coordination efficiency in multi-AUV operations.

MANAGING RISK IN AUV DEVELOPMENT AND DEPLOYMENT

Justin E. Manley (Battelle) discusses AUVs' technical and operational risks that users and developers should understand.

POSITION ERROR REDUCTION BROUGHT ABOUT BY ROTATIONAL MOTION

Dr. Shojiro Ishibashi (Japan Agency for Marine-Earth Science and Technology) ponders improving the accuracy of an inertial navigation system loaded on an AUV.

SYNTHETIC APERTURE SONAR IMAGE DESPECKLING

Philippe Courmontagne (Institut Supérieur de l'Électronique et du Numérique) talks about the joint use of an auto-adaptive mean filter and the stochastic matched filter.

SEAMLESS MOSAICKING OF ACOUSTIC VIDEO IMAGES

Akira Asada (University of Tokyo) shows how visual surveillance technology reinforces an underwater security system.

VERTICAL POSITION ESTIMATION FOR UNDERWATER VEHICLES

Ove Kent Hagen (Norwegian Defence Research Establishment) and Bjørn Jalving (Kongsberg Maritime Subsea) improve seabed mapping by filtering pressure measurements using an integrated inertial navigation system.

SEA TECHNOLOGY ANNUAL INDEX FOR 2008

2008 Author Index

www.sea-technology.com

Achir, Nadjib	8/49	Duschang, John	7/19
Ait Saadi, Nadjib	8/49	Evans, Jack	3/7
Andersen, Dr. Lars Nonboe	2/61	Evans, Dr. Jonathan	12/23
Anderson, Larry A.	11/15	Fabian, Marcus	10/10
Andrade, Stephen	3/73	Faught, Michael K.	10/37
Asada, Akira	12/46	FitzGerald, Ken	7/15
Azimi-Sadjadi, Mahmood R.	12/10	Flemer, David A.	8/81
Bacchelli, Alessandro	1/37	Flemming, Nic	10/37
Bamford, Dr. Holly A.	9/10	Foggitt, Rachael	11/35
Barbin, Dr. Yves	3/39	Fortin, Guy	9/41
Barnes, Dr. R. Chris	7/10	Fry, Edward S.	1/41
Bartolini, Emanuele	1/37	Fryer, Dr. David	4/51
Beels, Charlotte	9/21	Gagosian, Dr. Robert	1/13
Best, Dr. Mairi M.R.	7/10	Gao, Yan-bo	10/45
Beyene, Dr. Asfaw	5/43	Glenn, Scott	2/31
Boussetta, Khaled	8/49	Gmeinder, Tom	10/10
Broda, Jim	7/15	Gove, RAdm. David	1/11
Brown, Cynthia	1/16	Gràcia, Dr. Eulàlia	8/35
Buchner, Bas	4/21	Grumbles, Benjamin H.	1/23
Bunnik, Tim	4/21	Guigand, Cedric	12/15
Burnett, Dr. William H.	5/10	Guo, Jenhwa	2/47
Byrne, Joseph A.	1/19	Gurgel, Dr. Klaus-Werner	3/39
Cammen, Dr. Leon M.	1/27	Gutiérrez Barceló, Ángel David	8/25
Candy, J.V.	1/7	Hagen, Ove Kent	12/51
Canter, Peter	6/39	Halwachs, James E.	11/10
Carthel, Craig	9/37	Hanson, Jeff	1/20
Castanedo, Sonia	8/25	Harris, David	2/51
Catone, Giovanni	1/37	Hatleskog, Jan	6/45
Cattle, Howard	1/14	Hegg, Frederick	6/27
Champ, Michael A.	8/81	Hendry, David	10/81
Chandler, Karen	11/73	Honda, Dr. Makio	8/17
Chang, Dr. Grace	8/17	Horiuchi, Dr. Tomohiro	9/15
Church, Robert	10/15	Hsu, Huai-Houh	9/25
Claeys, Stijn	7/37	Hughes Clarke, John E.	6/17
Collins, Corey	6/39	Ishibashi, Dr. Shojiro	3/43, 12/37
Conway, Mike	4/10	Jaffrey, Dr. Andrew	2/10
Coraluppi, Stefano	9/37	Jalving, Bjørn	12/51
Corredor, Jorge E.	10/48	Janzen, Dr. Carol	2/55
Courmontagne, Philippe	12/41	Jeng, Dr. Dong-Sheng	4/33
Cove, Karen	3/10	Jolly, James	2/51
Covey, Charles W.	9/7	Jones, Emma	7/41
Cowen, Dr. Robert K.	12/15	Kaul, Norbert	10/10
Crout, Dr. Richard L.	5/10	Kinder, Jeffrey	1/73
Cunningham, Alex	11/41	Kohut, Josh	2/31
Dañobeitia, Dr. Juan José	8/35	Komm, William	9/29
Davies, Peter	7/25	Korgen, Ben	5/77
Davis, David	7/19	Landay, RAdm. William E., III	1/17
De Backer, Griet	9/21	Lane, Dr. David M.	12/23
Duenebier, Fred	2/51	Larson, Dr. Nordeen	2/55
Dunlap, Capt. Gary H.	11/10	Lautenbacher, VAdm. Conrad C., Jr.	1/10
Dunnigan, Matthew W.	6/45	Lavoie, Frederic	3/10

Li, Yan	10/45	Smalley, Joseph K.	11/15
Lo Iacono, Dr. Claudio	8/35	Sotzing, Chris C.	12/23
Lockhart, Doug	6/39	Stojanovich, Milica	5/39
Lomnický, Lt. Jay	8/10	Thomas, George Guy	2/7
Lucey, Danielle	1/34, 5/7	Thorne, Richard E.	9/73
Makrinos, Stephen T.	2/23	Tidd, Rick	6/27
Mallios, Aggelos	3/21	Tsabaris, Dr. Christos	3/21
Manley, Justin	6/10, 12/29	Tsechpenakis, Dr. Gavriil	12/15
Maras, H. Hakan	7/33	Tucker, J. Derek	12/10
Martin, Rick	1/32	Unlutepe, Dr. Ahmet	10/19
Masterson, Lauren	10/7	Van den Syde, Jaak	7/19
Mathys, Pieter	9/21	Varlaque, Cmdr. James	6/7
Mayer, Christine	9/41	Veilleux, Dr. Douglas	9/29
McConnaughey, Dr. Robert	8/10	Wainman, Carl K.	8/43
McElwee, Kris	9/10	Waldmann, Christoph	7/73
McGill, Paul	4/10	Walther, Thomas	1/41
McKee, David	11/41	Warren, Daniel	10/15
Merry, Dr. Stephanie	4/51	Wernli, Robert	6/85
Molchan, Marianne	4/85	Westrick, Robert	10/15
Moore, Casey	2/55	Wilson, Dr. James H.	5/43
Morishige, Carey	9/10	Wolk, Dr. Fabian	9/15
Moya Crawford	7/7	Yang, Dr. T.C.	5/31
Mulcahy, Michael	4/37	Yang, Dr. Wen-Bin	5/31
Murphy, Ray	11/7	Yoshida, Dr. Hiroshi	3/43
Myers, Mark D.	1/30	Zhong, Dr. Qian	5/25
Nencioli, Francesco	8/17	Zielinski, Dr. Adam	7/10
Noland, Gary M.	8/81		
O'Brien, Robert N.	7/29		
O'Hear, Nick	7/25		
Olabarrieta, Maitane	8/25		
Oliveira, Lt. Cmdr. Aluizio M., Jr.	6/17		
Ona, Egil	2/61		
Ozden, Huseyin	6/52		
Pagano, Susanne	1/24, 4/15		
Painter, Amy	11/27		
Papathanassiou, Dr. Evangelos	3/21		
Pedersen, Torstein	2/17		
Peleato, Borja M.	5/39		
Perron, Jean	9/41		
Petres, Clement	11/23		
Prager, Dr. Ellen	2/97		
Reddy, Christopher M.	8/7		
Reilly, Gerald	10/29		
Resio, Don	1/20		
Richard, Capt. Alain	3/29		
Rubino, Michael	4/7		
Sager, William W.	6/10		
Saka, Dr. M. Halis	8/39		
Saxton, Rep. Jim,	1/28		
Schofield, Oscar	2/31		
Sharp, David A.	9/29		
Shyu, Jih-Ping	6/10		
Siegel, Eric	2/17		
Sinclair, Mark	3/15		

Underwater Intervention 2009

March 3-5, 2009 • New Orleans, LA
Ernest Morial Convention Center

**Online
Registration
Now Open For**

**Conference
Attendance**

**Technical
Program
Attendance**

Awards Dinner

Daily Area Tours

**Avoid Long
Show-Site Lines**

**Register
Online Today!**



The World's
Premier Conference for
Underwater Contracting



Information on exhibiting, presenting
or attending UI 2009 visit:

www.underwaterintervention.com